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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/042,417      03/13/98      WOLRICH

G      15311-2107

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EXAMINER

JOSEPH H. BORN, ESQ.  
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BOSTON MA 02110

BACKER, F

ART UNIT

PAPER NUMBER

2781

*6*

DATE MAILED:

07/05/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

09/042,417

Applicant(s)

WOLRICH ET AL.

Examiner

Firmin Backer

Art Unit

2781

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2000.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some \* c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) \_\_\_\_\_.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

## Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

*Response to Amendment*

This is in response to an amendment file on May 25<sup>th</sup>, 2000 for letter for patent filed on in which claims 1-7 were presented for examination. In the amendment, no claim has been amended. Claims 1-7 remain pending in the letter.

*Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki (U.S. Patent No. 5,276,634).

3. As per claim 1, Suzuki et al teach an addition pipeline, adapted for application of first and second operand signals, each of which represents the sign, exponent, and mantissa of floating-point input operand, for performing an effective addition or subtraction on the input operands and generating an addition-pipeline output signal representing the result (see abstract and column 11 line 21-32), the addition pipeline comprising a mantissa adder for application of first and second mantissa signals respective mantissa values (see fig 1, 2, 14, column 17 lines 34-42), perform addition and subtraction on the mantissa values and generate a mantissa adder output (see abstract and fig 1, 14, and column 1 lines 18-29), mantissa processing circuit for generating

Art Unit: 2781

and applying mantissa input operands to the mantissa adder, subtracting a pair of mantissas when they are offset to the left by one position from the applied mantissa signals and add when the pair of mantissas are the same (see Fig 1, 2, 14, column 1 lines 18-29, column 11 lines 12-18) (see also claims 1, 10, 17).

4. As per claims 2, 3 Suzuki et al teach an addition pipeline wherein the main mantissa adder performs a normalization shift in one direction (to the right only) when necessary to produce an output within predetermined normalization limits le of performing the normalization shift in only one direction (see abstract, column 1 lines 47-54, column 25 lines 31-33, 26 lines 42-45).

5. As per claim 4, 7, Suzuki et al teach an addition pipeline wherein the mantissa processing circuitry comprises a pair of processing trains for generating first and second processed mantissa signals from input operands' mantissas, each processing train performing a shift, for at least a plurality of input-operand-value pairs, that is one more position to the left for an effective subtraction than for an effective addition (see column 14 lines 48-65, column 15 lines 13-26, sections Mantissa subtraction).

6. As per claim 5, 6, Suzuki et al teach an addition pipeline wherein the mantissa adder includes rounding circuit operable in at least one rounding mode to add a rounding bit and being capable of adding the rounding bit at a selected one of only two bit positions in a given rounding mode (see column 1 lines 56-69, claims 1, 10, 17).

*Response to Arguments*

1. Applicant's arguments filed May 25<sup>th</sup>, 2000 have been fully considered but they are not persuasive.

a. Applicant requests that the first office action be reconsidered on the basis that the prior art does not teach the claimed differential pre-shift before the addition. Examiner respectfully denied the request for reconsideration since no such claim is found in the claimed invention.

*Conclusion*

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

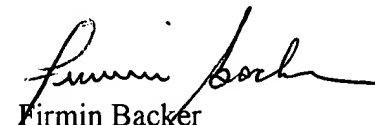
Art Unit: 2781

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Firmin Backer whose telephone number is 703-305-0624. The examiner can normally be reached on Mon-Thu 8:30-6:00 and every other Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sheikh Ayaz can be reached on 703-305-9648. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3719 for regular communications and 703-305-5352 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

  
Firmin Backer  
June 22, 2000

  
AYAZ R. SHEIKH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2700